Provincial Report

Grade 12 Diploma Examinations
January 1987 Administration

March 1987

Student Evaluation

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This report contains the statistical summary of the provincial results for the January 1987 administration of the Grade 12 diploma examinations in English 30, English 33, Social Studies 30, Mathematics 30, Biology 30, Chemistry 30, Physics 30, and Langue et Littérature 30.

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The Alberta Teachers' Association
The Conference of Alberta School Superintendents
The Universities Co-ordinating Council
The Public Colleges of Alberta
Alberta Education

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Frank Horvath
Director
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SECTION 1: GRADE 12 DIPLOMA EXAMINATIONS PROGRAM

Preface

Following each major administration of the diploma examinations, a report of provincial results is prepared. This document is the report for the January 1987 administration. Each school and school jurisdiction also receives a report of examination results for its students.

The *Provincial Report* consists of general information about the diploma examinations program, followed by information specific to each subject. Letter grade distributions, averages, and standard deviations for school-awarded, diploma examination, and final blended marks are provided. In addition, diploma examination results are presented separately for written response, multiple choice, and selected reporting categories. Examination blueprints, which form the basis for reporting categories, are also included.

The reported figures are based on all students for whom both a school-awarded mark and a diploma examination mark are available. This group constitutes virtually all students completing the examination, and includes students in public and private schools.

The *Provincial Report* is intended to supplement the diploma examination bulletins, school and school jurisdiction reports, content specifications for each subject, and the examinations themselves. Information from these documents should enable teachers, principals, superintendents, and others to make judgments with respect to the quality of student achievement at the provincial level and within schools and school systems.

Judgments about student performance should be applied to the task of improving instruction. Educators in each jurisdiction are encouraged to study the examination results carefully to determine the strengths and weaknesses of their instructional programs. Guidelines for interpreting school and school jurisdiction reports are included in this report. The Student Evaluation Branch will assist educators in further analysis and interpretation on request.

Introduction

The Grade 12 Diploma Examinations Program, which is an integral part of the high school diploma requirements, is intended to develop and maintain excellence in educational standards through certification of academic achievement. All Grade 12 students in Alberta are now required to write at least ONE diploma examination to receive a high school diploma. Also, mature students may receive credits for a Grade 12 course by writing the appropriate diploma examination without registering in the course.

The Diploma Examinations Program consists of course-specific examinations that are based on the prescribed *Program of Studies for Senior High Schools* for the following Grade 12 courses: English 30, English 33, Social Studies 30, Mathematics 30, Biology 30, Chemistry 30, Physics 30, and Langue et Littérature 30. Except for English 30, English 33, and Langue et Littérature 30, the diploma examinations are available in French translation on request. Langue et Littérature 30 is available in French only. The diploma examinations are administered three times yearly: January, June, and August.

Alberta Education issues two distinct high school diplomas: the General High School Diploma and the Advanced High School Diploma.

General High School Diploma

To earn a General High School Diploma, a student must obtain course credit in either English 30 or English 33 and obtain 100 credits distributed over courses as specified in the *Junior-Senior High School Handbook*. Some students who are working toward the general diploma may wish to obtain credits in other diploma examination courses (i.e. Social Studies 30, Mathematics 30, Biology 30, Chemistry 30, Physics 30, and Langue et Littérature 30). To obtain credits in these courses, one must also write the appropriate diploma examination regardless of the type of diploma one wishes to receive.

Advanced High School Diploma

The Advanced High School Diploma represents achievement in an academic program that includes language arts (English), social studies, mathematics, and science. To earn an Advanced High School Diploma, a student must satisfy the current course and credit requirements for a General High School Diploma, and obtain course credits in English 30, Social Studies 30, Mathematics 30, and ONE of Biology 30, Chemistry 30, or Physics 30.

Awarding of Course Credits

To obtain credit in any high school course, a student must earn a final mark of 50% or better. To obtain credit in a Grade 12 diploma examination course, a student must write the appropriate diploma examination and attain a final blended mark of 50% or better. The final blended mark is made up of 50% of the mark awarded by the school and 50% of the diploma examination mark. For example, a student taking Physics 30 might have a mark of 45% from the school and a mark of 57% on the diploma examination. This student would earn credit for Physics 30 because the final mark would be 51%, which is the average of the school and examination marks. For mature students who do not have a school mark or who have a school mark lower than the examination mark, the examination mark is the final mark.

Award of Excellence

When candidates for an Advanced High School Diploma obtain a final average of 80% or higher on the four required diploma examination courses, with not less than 65% in any one of these four required courses, they receive an Award of Excellence. This Award of Excellence is noted on the student's Advanced High School Diploma.

When a student writes two or three of the diploma examinations in Biology 30, Chemistry 30, and Physics 30, the highest of these final course marks is used for diploma purposes and in the calculation of the average for the Award of Excellence.

SECTION 2: ENGLISH 30 DIPLOMA EXAMINATION

The English 30 Diploma Examination consists of two parts: Part A: Written Response and Part B: Reading (Multiple Choice), each worth 50% of the total examination mark.

Table 1 contains percentage distributions for school-awarded marks, diploma examination marks, and final blended marks in English 30. Table 2 contains averages and standard deviations for the written-response questions and the multiple-choice questions. Averages given in Table 2 are based on raw scores, which are the number of marks obtained on each part of the examination.

The total marks possible are identified for the written-response and multiple-choice components.

Averages in both tables are based on the results achieved by 8 805 students. Differences between total averages and component averages are due to rounding.

Table 1

Provincial Percentages of A, B, C, and F Grades, Averages, and Standard Deviation of Scores
English 30

Score (%)	School-Awarded Mark	Diploma Examination Mark	Final Blended Mark
A (80-100)	12.4	10.1	9.8
B (65-79)	40.8	39.3	41.6
C (50-64)	39.4	40.5	44.3
F (0-49)	7.4	10.2	4.2
Average (%)	65.1	64.4	65.3
Standard Deviation	11.7	11.8	10.5

Table 2

Multiple-Choice and Written-Response Raw Score Totals
English 30

Examination Section	Total Marks	Weighting (%)	Average	Standard Deviation
Part A: Written Response	50	50	30.4	6.5
Part B: Multiple Choice	80	50	54.1	10.9

Table 3

January 1987 English 30 Diploma Examination Blueprint
Part A: Written Response

Description of the Writing Assignment	Reporting Category	Proportion of Total Mark (%)
Minor Assignments		
The two writing assignments are connected to the reading of literary selections contained in the examination. In Assignment One, the students are required to respond to the selections in a personal context. In Assignment Two, the students are required to understand, analyze, and evaluate techniques used in literature and to synthesize their thoughts clearly and correctly in writing.	1. Thought & Detail	15
	2. Writing Skills	5
Major Assignment		
The writing assignment sets a specific writing task but allows the student to choose a method of development and to select supporting details from personal experience with literature studied. The writing assignment is generated from literary selections and requires the students to understand literal and implied meanings and to synthesize their thoughts clearly and correctly in writing.	1. Total Impression	5
	2. Thought & Detail	10
	3. Organization	5
	4. Matters of Choice	5
	5. Matters of Convention	5
		50%

Table 4

Percentage Distribution of Scores on English 30: Part A
Minor Assignments (Personal Response and Critical Response)

Score Scale Points	Personal Response Reporting Category		Critical Response Reporting Category	
	Thought & Detail	Writing Skills	Thought & Detail	Writing Skills
5 (Exceptional)	3.4	4.1	2.6	3.4
4 (Proficient)	29.3	36.3	19.0	26.8
3 (Satisfactory)	57.4	52.7	39.8	56.4
2 (Limited)	8.9	6.1	27.9	9.3
1 (Poor)	0.6	0.5	7.4	1.0
INS (Insufficient or No Response)	0.3	0.3	3.1	3.1

Table 5

Percentage Distribution of Scores on English 30: Part A
Major Assignment

Score Scale Points	Reporting Category				
	Total Impression	Thought and Detail	Organi-zation	Matters of Choice	Matters of Convention
5 (Exceptional)	2.8	2.8	3.3	3.6	6.1
4 (Proficient)	17.1	16.5	20.6	23.0	33.7
3 (Satisfactory)	50.8	42.3	57.5	57.2	48.6
2 (Limited)	26.6	33.9	16.8	14.5	9.9
1 (Poor)	2.2	4.0	1.3	1.2	1.2
INS (Insufficient or No Response)	0.5	0.5	0.5	0.5	0.5

Table 6

January 1987 English 30 Diploma Examination Blueprint
Part B: Reading (Multiple Choice)

Reporting Category	Questions by Cognitive Level: Literal Understanding	Inference and Application	Evaluation	Examination Emphasis (%)
Meanings	1,27,34,52, 68,69,76	2,12,22,26, 29,35,45,46, 50,51,53,54, 57,58,59,62, 67,70,71,77	4,9,28, 33,39,44, 56,61,75	22
Critical Response		5,11,13,14, 15,17,18,21, 38,42,47,48, 49,55,60,63, 64,65,66,78, 79,80	7,10,20, 74	17
Human Experience and Values		6,16,23,24, 31,32,37,40, 41,72	3,8,19, 25,30,36 43,73	11
Examination Emphasis (%)	4	32	14	50%

Table 7

Raw Score Results for English 30: Part B

Reporting Category	Average	Standard Deviation
1. Meanings (36 questions)	24.7	5.8
2. Critical Response (26 questions)	17.0	3.6
3. Human Experience and Values (18 questions)	12.5	2.8

Multiple-Choice Questions

The percentage of students choosing each response for each multiple-choice question is given in Table 8. The correct response (key) for each question is also identified. Schools may use this information in conjunction with the test and with school results on individual items to determine local strengths and weaknesses.

Table 8

Results for Individual Multiple-Choice Questions
English 30

Item	Key	Distribution of Responses (%) A	B	C	D	Item	Key	Distribution of Responses (%) A	B	C	D
1	C	3.1	3.8	89.4	3.6	41	C	11.8	4.4	69.9	13.8
2	A	64.8	7.4	22.6	5.2	42	D	15.1	35.5	21.2	28.1
3	A	50.0	26.0	12.6	11.4	43	A	84.1	4.1	8.8	2.9
4	C	11.6	14.7	55.6	18.1	44	D	7.6	9.8	12.3	70.2
5	C	11.7	13.2	66.7	8.4	45	B	6.3	74.7	8.1	10.9
6	B	10.7	74.9	9.2	5.1	46	C	28.0	10.2	53.2	8.6
7	D	9.7	5.4	12.7	72.1	47	C	8.3	3.6	81.5	6.7
8	A	75.0	18.2	4.1	2.7	48	D	12.3	23.9	2.2	61.6
9	C	11.3	9.7	53.2	25.7	49	A	27.5	23.3	43.4	5.8
10	D	2.4	3.7	13.7	80.2	50	C	2.9	2.9	92.2	2.0
11	C	1.6	11.1	84.8	2.5	51	A	75.9	11.7	9.2	3.2
12	D	1.4	3.2	3.0	92.3	52	D	24.0	8.4	3.8	63.8
13	B	5.6	78.8	11.4	4.1	53	A	71.6	4.5	7.9	15.9
14	C	15.7	20.3	48.9	15.0	54	A	63.1	16.7	12.0	8.1
15	B	11.2	64.7	13.6	10.5	55	B	5.2	47.4	20.6	26.8
16	B	8.6	80.1	2.4	8.9	56	B	2.4	79.9	11.5	6.2
17	A	72.6	19.5	2.9	5.0	57	D	14.6	3.1	21.1	61.1
18	A	59.9	19.4	11.9	8.7	58	A	47.4	24.5	22.5	5.5
19	A	75.2	3.8	13.0	7.9	59	D	6.4	13.2	6.0	74.3
20	C	10.2	15.6	69.0	5.2	60	D	9.0	3.8	3.9	83.2
21	D	5.1	14.2	4.5	76.2	61	D	10.8	17.4	23.1	48.7
22	B	8.1	72.2	10.8	8.9	62	B	13.2	70.0	5.8	10.9
23	B	0.3	96.0	2.6	1.0	63	C	7.7	2.7	82.3	7.2
24	D	26.1	17.3	2.7	53.9	64	A	53.2	27.2	2.0	17.7
25	B	8.1	75.9	4.5	11.4	65	C	11.8	19.4	61.7	7.1
26	A	35.1	33.6	16.7	14.6	66	B	2.6	83.4	2.4	11.6
27	B	4.1	83.6	5.3	7.0	67	A	77.1	11.3	5.4	6.1
28	D	30.6	4.0	18.7	46.6	68	D	12.7	3.8	7.4	76.0
29	A	80.4	10.6	2.4	6.6	69	D	4.3	10.5	15.3	69.8
30	D	7.8	2.1	2.6	87.4	70	B	13.4	59.3	8.6	18.6
31	C	5.9	25.7	49.0	19.3	71	C	8.7	5.8	81.1	4.1
32	A	39.1	8.0	50.3	2.6	72	C	22.7	19.6	40.8	16.6
33	B	4.9	50.8	40.9	3.3	73	A	65.2	17.0	10.3	7.2
34	B	5.4	85.0	1.5	8.0	74	B	13.8	55.8	11.8	18.2
35	B	5.4	66.7	7.0	20.9	75	A	72.9	7.7	4.6	14.4
36	B	18.7	68.6	5.2	7.5	76	C	3.7	9.8	74.4	11.7
37	D	2.0	7.1	2.2	88.6	77	D	14.3	11.5	6.1	67.7
38	C	4.0	7.1	85.7	3.1	78	C	23.6	12.8	53.4	9.8
39	A	65.3	5.8	16.5	12.3	79	D	30.6	13.2	8.4	47.4
40	D	12.2	4.2	5.4	78.2	80	D	14.2	14.0	4.1	67.2

*The sum of the percentages for each question may be less than 100% because the No Response category is not included. This category is not greater than 0.5% for any question.

SECTION 3: ENGLISH 33 DIPLOMA EXAMINATION

The English 33 Diploma Examination consists of two parts: Part A: Written Response and Part B: Reading (Multiple Choice), each worth 50% of the total examination mark.

Table 9 contains percentage distributions for school-awarded marks, diploma examination marks, and final blended marks in English 33. Table 10 contains averages and standard deviations for the written-response questions and the multiple-choice questions. Averages given in Table 10 are based on raw scores, which are the number of marks obtained on each part of the examination.

The total marks possible are identified for the written-response and multiple-choice components.

Averages in both tables are based on the results achieved by 4 153 students. Differences between total averages and component averages are due to rounding.

Table 9

Provincial Percentages of A, B, C, and F Grades, Averages, and Standard Deviation of Scores
English 33

Score (%)	School-Awarded Mark	Diploma Examination Mark	Final Blended Mark
A (80-100)	4.1	8.4	3.7
B (65-79)	34.8	41.5	39.8
C (50-64)	50.3	39.1	51.4
F (0-49)	10.8	11.0	5.1
Average (%)	61.0	64.1	63.0
Standard Deviation	10.7	11.5	9.4

Table 10

Multiple-Choice and Written-Response Raw Score Totals
English 33

Examination Section	Total Marks	Weighting (%)	Average	Standard Deviation
Part A: Written Response	50	50	32.6	5.6
Part B: Multiple Choice	69	50	43.5	10.4

Table 11

January 1987 English 33 Diploma Examination Blueprint
Part A: Written Response

Description of the Writing Assignment	Reporting Category	Proportion of Total Mark (%)
Personal Response to Literature Students are required to read short literary selections that serve as a stimulus for a personal or reflective response.	1. Thought & Detail	10
	2. Organization	5
	3. Matters of Choice	5
	4. Matters of Convention	5
Functional Writing Students are required to write for a specified purpose and audience.	1. Thought & Detail	10
	2. Organization	2.5
	3. Writing Skills	2.5
Response to Visual Communication Writing assignments are connected to a photograph. Students are required to write about main ideas, techniques of communication, and personal reactions.	1. Thought & Detail	5
	2. Writing Skills	5
		50

Table 12

Percentage Distribution of Scores on English 33: Part A
Section I: Personal Response to Literature

Score Scale Points	Reporting Category			
	Thought & Detail	Organization	Matters of Choice	Conventions
5 (Proficient)	4.6	4.2	4.2	8.3
4 (Capable)	32.8	34.8	34.2	41.4
3 (Adequate)	51.5	54.7	55.1	38.9
2 (Limited)	10.6	6.0	5.9	10.3
1 (Poor)	0.5	0.1	0.5	1.1
INS (Insufficient or No Response)	0.0	0.0	0.0	0.0

Table 13

Percentage Distribution of Scores on English 33: Part A
Section II: Functional Writing

Score Scale Points	Reporting Category		
	Thought & Detail	Matters of Choice	Conventions
5 (Proficient)	3.2	3.7	4.1
4 (Capable)	28.5	33.1	33.5
3 (Adequate)	51.6	55.8	47.9
2 (Limited)	15.5	6.7	12.8
1 (Poor)	0.8	0.3	1.2
INS (Insufficient or No Response)	0.4	0.4	0.4

Table 14

Percentage Distribution of Scores on English 33: Part A
Section III: Response to Visual Communication

Score Scale Points	(Assignment 1) Reporting Category		(Assignment 2) Reporting Category	
	Thought & Detail	Writing Skills	Thought & Detail	Writing Skills
5 (Proficient)	1.8	4.2	1.2	3.4
4 (Capable)	23.7	34.6	18.0	28.5
3 (Adequate)	50.4	48.9	46.0	48.5
2 (Limited)	19.7	9.6	20.5	10.1
1 (Poor)	2.5	0.8	6.3	1.4
INS (Insufficient or No Response)	2.0	2.0	8.0	8.0

Table 15

January 1987 English 33 Diploma Examination Blueprint
Part B: Reading (Multiple Choice)

Reporting Category	Questions by Cognitive Level			Examination Emphasis (%)
	Literal Understanding	Inference and Application	Evaluation	
Meanings	10,25,26, 51,66	1,7,11,14,15, 19,20,21,24, 27,29,31,50, 52,54,59,60, 64,65	5,36,61	19%
Relationships of Form and Content		2,4,6,8,9, 12,35,55,58, 69	22,53	9%
Human Experience and Values		3,16,17,18, 23,28,30,32, 33,34,56,67 68,70*	13,57,62, 63	13%
Life Skills	41,42,43	37,39,40,46, 48,49	38,44,45, 47	9%
Examination Emphasis (%)	6%	35%	9%	50%

*Question 70 was deleted from the examination. This question was omitted from some question booklets because of a printing error.

Table 16

Raw Score Results for English 33: Part B

Reporting Category	Average	Standard Deviation
1. Meanings (27 questions)	16.5	4.6
2. Relationships: Form and Content (12 questions)	8.0	2.3
3. Human Experience and Values (17 questions)	10.8	3.2
4. Life Skills (13 questions)	8.2	2.3

Multiple-Choice Questions

The percentage of students choosing each response for each multiple-choice question is given in Table 17. The correct response (key) for each question is also identified. Schools may use this information in conjunction with the test and with school results on individual items to determine local strengths and weaknesses.

Table 17

Results for Individual Multiple-Choice Questions
English 33

Item	Key	Distribution of Responses (%) A	B	C	D	Item	Key	Distribution of Responses (%) A	B	C	D
1	D	10.1	2.3	2.0	85.6	36	C	24.9	16.8	47.4	10.7
2	C	2.0	17.1	73.5	7.3	37	B	45.3	41.9	8.6	4.1
3	B	4.3	86.2	3.0	6.4	38	B	7.7	56.0	19.8	16.2
4	A	67.4	6.9	20.5	5.0	39	C	7.0	14.2	67.7	11.0
5	D	16.1	6.1	3.9	73.8	40	B	37.1	42.3	12.1	8.4
6	B	10.9	73.7	11.9	3.3	41	B	4.1	51.0	25.0	19.7
7	D	20.9	2.4	1.8	74.9	42	A	65.1	7.9	4.2	22.5
8	B	5.6	76.4	11.8	6.2	43	B	4.3	82.5	10.1	2.9
9	D	17.8	9.3	5.4	67.5	44	B	1.5	89.2	7.3	1.7
10	A	59.8	6.0	7.9	26.3	45	C	3.7	4.7	85.5	5.9
11	A	66.5	17.0	7.4	9.1	46	D	2.0	10.2	1.8	85.8
12	C	3.0	7.5	85.5	4.0	47	A	52.5	13.0	22.6	11.7
13	A	76.1	10.4	8.4	5.1	48	D	18.6	9.4	14.5	57.3
14	D	26.8	21.5	16.4	35.2	49	A	43.6	19.6	16.6	19.8
15	A	67.0	10.3	12.2	10.5	50	C	10.4	3.3	64.5	21.6
16	C	4.1	9.4	80.4	6.1	51	B	22.9	63.9	7.7	5.3
17	A	72.4	5.7	9.0	12.8	52	B	25.2	57.1	10.3	7.1
18	C	1.4	2.9	79.1	16.6	53	C	9.0	7.7	68.0	15.0
19	C	5.9	7.6	74.4	12.1	54	A	35.7	21.4	17.2	25.4
20	C	10.3	9.9	72.8	6.9	55	A	61.0	14.9	18.5	5.3
21	A	61.7	24.6	7.7	5.9	56	C	8.9	17.9	53.1	19.8
22	C	12.2	6.8	45.7	35.3	57	D	18.0	10.1	15.0	56.5
23	D	12.1	28.3	3.4	56.0	58	D	9.1	9.8	8.3	72.2
24	B	21.0	54.1	7.9	16.8	59	C	10.8	27.1	34.3	27.0
25	B	10.4	60.5	15.9	13.1	60	B	6.5	68.4	19.3	5.2
26	C	11.7	8.9	67.3	12.0	61	D	9.2	10.9	21.4	57.8
27	D	13.8	8.5	6.4	71.3	62	B	31.4	47.3	10.0	10.6
28	C	23.0	20.5	46.1	10.3	63	A	48.2	11.0	13.6	26.4
29	C	33.7	2.0	55.8	8.4	64	D	5.2	11.6	10.2	72.2
30	C	9.4	5.3	78.9	6.3	65	B	21.6	57.4	13.4	6.6
31	A	57.6	7.5	26.8	8.0	66	A	58.4	6.9	13.7	19.9
32	D	7.2	12.1	6.9	73.7	67	B	8.9	56.1	9.3	24.6
33	D	19.1	10.9	18.9	51.0	68	A	57.5	26.4	9.9	5.0
34	D	3.7	16.7	13.7	65.9	69	A	54.8	21.5	10.6	11.8
35	B	18.9	50.3	19.2	11.5	70	QUESTION DELETED				

*The sum of the percentages for each question may be less than 100% because the No Response category is not included. This category is not greater than 1.3% for any question.

SECTION 4: SOCIAL STUDIES 30 DIPLOMA EXAMINATION

The Social Studies 30 Diploma Examination consists of both multiple-choice questions (worth 70% of the total examination mark) and a written-response question (worth 30% of the total examination mark).

Table 18 contains percentage distributions for school-awarded marks, diploma examination marks, and final blended marks in Social Studies 30. Table 19 contains averages and standard deviations for the written-response questions and the multiple-choice questions. Averages are based on raw scores, which are the number of marks obtained on each part of the examination. The total marks possible are identified for the written-response and multiple-choice components.

Averages are based on the results achieved by 7 767 students. Differences between total averages and component averages are due to rounding.

Table 18

Provincial Percentages of A, B, C, and F Grades, Averages, and Standard Deviation of Scores
Social Studies 30

Score (%)	School-Awarded Mark	Diploma Examination Mark	Final Blended Mark
A (80-100)	15.4	13.2	13.4
B (65-79)	37.8	32.0	35.6
C (50-64)	39.8	35.1	42.2
F (0-49)	6.9	19.6	8.9
Average (%)	65.8	62.5	64.5
Standard Deviation	12.0	14.3	12.4

Table 19

Multiple-Choice and Written-Response Raw Score Totals
Social Studies 30

Examination Section	Total Marks	Weighting (%)	Average	Standard Deviation
Written Response	30	30	16.1	4.7
Multiple Choice	70	70	46.3	11.2

Table 20

January 1987 Social Studies 30 Diploma Examination Blueprint
Part A: Multiple Choice

Content Category	Questions by Process Category					Examination Emphasis (%)
	Recall & Comp.	Inquiry Skills A[1]	Inquiry Skills B[2]	Inquiry Skills C[3]	Valuing Skills	
Value Concepts competing values value positions - Topic A - Topic B	 15,27 39,67				 6,28 54,62	8
Political and Economic Systems facts, concepts, generalizations	1,2,3,4,5,11, 12,13,21,22,25, 26,30,31,32,35	7,14,23	8,9,16,17 19,20,29, 33,34	10,18,24		31
Co-operation & Conflict Among States facts, concepts, generalizations	36,37,38,43, 51,52,53,55, 56,57,58,59, 61,68,69,70	44,45,60	40,41,42, 46,47,48, 50,63,64	49,65,66		31
Examination Emphasis (%)	36	6	18	6	4	70

[1]Inquiry Skills A -- Identify and focus on the issue and formulate research questions.

[2]Inquiry Skills B -- Gather, organize, analyze, evaluate, and synthesize data.

[3]Inquiry Skills C -- Resolve the issue, apply the decision, and evaluate the decision, process, and action.

Table 21

Raw Score Results for Social Studies 30: Part A

Reporting Category	Average	Standard Deviation
1. Recall & Comprehension (32 questions)*	20.3	5.8
2. Inquiry Skills: Identify Issue (6 questions)	3.9	1.3
3. Inquiry Skills: Gather & Use Data (18 questions)	12.8	3.1
4. Inquiry Skills: Resolve & Decide (6 questions)	3.9	1.4
5. Valuing (8 questions)	5.4	1.7
6. Political & Economic Systems (35 questions)	23.6	5.8
7. Co-operation & Conflict (35 questions)	22.7	6.1

* Recall and Comprehension questions in the Value Concept category in Table 21 are included in Reporting Category 5 (Valuing).

Multiple-Choice Questions

The percentage of students choosing each response for each multiple-choice question is given in Table 22. The correct response (key) for each question is also identified. Schools may use this information in conjunction with the test and with school results on individual items to determine local strengths and weaknesses.

Table 22

Results for Individual Multiple-Choice Questions
Social Studies 30

Item	Key	Distribution of Responses (%) A	B	C	D	Item	Key	Distribution of Responses (%) A	B	C	D
1	D	10.5	5.4	13.0	71.0	36	B	12.3	79.1	5.4	3.1
2	C	20.4	16.4	41.6	21.2	37	A	51.1	4.0	22.5	22.4
3	C	28.9	12.6	55.4	3.1	38	C	6.4	12.4	75.0	6.1
4	D	11.0	23.4	9.6	55.9	39	C	7.0	13.7	67.7	11.6
5	A	57.2	6.4	19.2	17.0	40	D	9.9	5.1	11.3	73.5
6	B	6.5	86.4	1.7	5.4	41	A	53.7	27.3	8.7	10.2
7	A	85.8	7.2	1.4	5.5	42	B	23.0	59.6	10.8	6.5
8	D	3.8	4.3	6.9	85.0	43	B	16.4	62.6	9.3	11.7
9	A	78.2	3.5	11.1	7.1	44	B	23.0	52.1	16.9	7.9
10	D	2.5	10.5	6.5	80.4	45	C	28.0	27.9	23.3	20.7
11	A	47.6	8.1	39.2	5.0	46	A	80.5	7.1	3.4	8.8
12	B	20.9	66.7	3.8	8.5	47	C	7.8	15.3	68.4	8.4
13	D	19.0	6.0	15.5	59.4	48	A	83.1	3.1	5.8	7.9
14	B	6.2	80.0	10.5	3.3	49	D	22.5	14.3	11.1	51.9
15	C	4.1	14.7	72.7	8.5	50	D	12.1	4.1	9.4	74.3
16	C	4.5	13.2	69.5	12.7	51	A	70.2	7.6	5.5	16.6
17	D	2.1	2.5	3.3	92.0	52	C	6.6	17.8	60.7	14.9
18	C	22.0	4.8	70.7	2.3	53	D	9.3	4.9	32.4	53.4
19	A	53.6	15.3	12.5	18.5	54	C	14.8	24.7	48.5	11.8
20	D	24.9	9.3	12.6	53.1	55	C	4.2	21.5	62.5	11.8
21	B	4.0	79.7	8.4	7.8	56	D	12.6	22.3	7.5	57.5
22	D	21.2	5.5	28.3	45.0	57	A	74.7	13.9	5.2	6.1
23	C	5.0	9.5	80.3	5.2	58	A	82.8	8.0	4.6	4.5
24	C	14.1	11.6	48.5	25.8	59	D	10.6	13.5	4.1	71.8
25	B	27.3	58.4	8.8	5.4	60	A	70.0	8.4	12.3	9.2
26	B	10.8	55.9	6.4	27.0	61	B	10.6	65.3	13.7	10.3
27	C	6.0	5.8	64.2	24.1	62	D	6.1	14.5	11.8	67.6
28	A	63.6	22.6	6.8	6.9	63	B	31.5	53.5	4.6	10.4
29	D	2.9	8.9	14.1	74.1	64	B	12.0	76.6	3.2	8.2
30	A	76.0	5.9	7.5	10.6	65	C	25.2	5.0	65.3	4.5
31	D	4.7	12.3	6.9	76.0	66	A	73.2	12.7	9.3	4.7
32	A	55.4	10.1	24.3	10.1	67	B	10.0	73.0	11.8	5.2
33	B	1.7	92.5	2.5	3.2	68	A	58.2	5.6	12.2	23.8
34	B	26.2	57.0	8.7	8.0	69	D	5.5	4.2	14.4	75.9
35	C	2.3	6.1	72.9	18.7	70	B	22.7	47.6	16.1	13.5

*The sum of the percentages for each question may be less than 100% because the No Response category is not included. This category is not greater than 0.3% for any question.

Table 23

January 1987 Social Studies 30 Diploma Examination Blueprint
Part B: Written Response

Description of Writing Assignment	Reporting Category	Proportion of Total Mark (%)
One complete and unified essay in which the student presents a position on a given issue.	1. Description of examples or case studies	10
	2. Description of value positions	5
	3. Defence of position	10
	4. Quality of language and expression	5
		30

Table 24

Percentage Distribution of Scores on Social Studies 30: Part B

Score Scale Points	Reporting Category			
	Description of Examples	Description of Value Positions	Defence of Position	Quality of Expression
5 (Exceptional)	2.4	1.5	1.3	2.1
4 (Proficient)	17.4	14.1	12.1	20.4
3 (Satisfactory)	39.1	33.5	41.3	59.8
2 (Limited)	30.6	29.4	38.5	16.6
1 (Poor)	9.3	18.8	6.5	1.0
0 (Insufficient or No Response)	1.2	2.6	0.3	0.2

SECTION 5: MATHEMATICS 30 DIPLOMA EXAMINATION

The Mathematics 30 Diploma Examination consists of both multiple-choice questions (worth 80% of the total examination mark) and written-response questions (worth 20% of the total examination mark).

Table 25 contains percentage distributions for school-awarded marks, diploma examination marks, and final blended marks in Mathematics 30. Table 26 contains averages and standard deviations for the written-response questions and the multiple-choice questions. Averages are based on raw scores, which are the number of marks obtained on each part of the examination. The total marks possible are identified for the written-response and multiple-choice components.

Averages are based on the results achieved by 8 587 students. Differences between total averages and component averages are due to rounding.

Table 25

Provincial Percentages of A, B, C, and F Grades, Averages, and Standard Deviation of Scores
Mathematics 30

Score (%)	School-Awarded Mark	Diploma Examination Mark	Final Blended Mark
A (80-100)	21.8	45.8	33.9
B (65-79)	34.1	27.5	34.1
C (50-64)	34.9	17.2	25.8
F (0-49)	9.2	9.6	6.2
Average (%)	67.0	74.7*	71.7
Standard Deviation	14.1	17.3	14.9

*An error was made in entering the relative weights for the multiple-choice and written-response components during the production of results statements. The weights were entered as 80 for multiple choice and 30 for written response, rather than 80 and 20. This error results in an effective weighting of approximately 73%/27%, rather than the 80%/20% specified in the blueprint. The error was not discovered until results statements had been mailed. It was decided to allow the marks with the 80/30 weighting to stand when that weighting resulted in a higher mark than the 80/20 weighting, and use the 80/20 weighting when that weighting gave a higher mark. The diploma examination mark average would have been 73.9% if the 80/20 weighting had been used for all students.

All further tables in this section use unweighted raw scores, and are not affected by the weightings.

Table 26

Multiple-Choice and Written-Response Raw Score Totals
Mathematics 30

Examination Section	Total Marks	Weighting (%)	Average	Standard Deviation
Written Response	13	20	10.2	3.2
Multiple Choice	52	80	37.9	8.9

Table 27

January 1987 Mathematics 30 Diploma Examination Blueprint

	Questions By Cognitive Level				
Subject Matter	Knowledge	Comprehension	Application	Higher Mental Activities	Examination Emphasis (%)
Trigonometry	1,2,8	3,4,5,7,10	6,11, [WR1]	9	25
Quadratic Relations	12,18	13,14,15	16,17,19,21, [WR2]	20	22
Sequences, Series, Limits	22,31	23,26,29,30	24,25,27,32, 33	28	18
Statistics	34,37	35,36	39,[WR3]	38	15
Logarithms		40,42	41,44,45	43	9
Polynomial Functions		46,47,50,51	48,49,52		11
Examination Emphasis (%)	14	31	47	8	100

NOTE: Numbers in brackets [ ] indicate the written-response questions.

Table 28

Provincial Raw Score Averages for Subtests
Mathematics 30

Subtest	Total Marks Possible			Raw Score Averages		
	Written Response	Multiple Choice	Total	Written Response	Multiple Choice	Total
Trigonometry	5	11	16	4.1	8.2	12.3
Quadratic Relations	4	10	14	2.6	6.9	9.6
Sequences, Series, and Limits	-	12	12	-	9.2	9.2
Statistics	4	6	10	3.5	4.4	7.9
Logarithms	-	6	6	-	4.2	4.2
Polynomial Functions	-	7	7	-	4.9	4.9

Table 29

Provincial Raw Score Averages for Cognitive Levels
Mathematics 30

Subtest	Total Marks Possible			Raw Score Averages		
	Written Response	Multiple Choice	Total	Written Response	Multiple Choice	Total
Knowledge	-	9	9	-	7.0	7.0
Comprehension	-	20	20	-	14.4	14.4
Application	13	18	31	10.2	13.2	23.4
Higher Mental Activities	-	5	5	-	3.2	3.2

Multiple-Choice Questions

The percentage of students choosing each response for each multiple-choice question is given in Table 30. The correct response (key) for each question is also identified. Schools may use this information in conjunction with the test and with school results on individual items to determine local strengths and weaknesses.

Table 30

Results for Individual Multiple-Choice Questions
Mathematics 30

Item	Key	Distribution of Responses (%) A	B	C	D	Item	Key	Distribution of Responses (%) A	B	C	D
1	A	77.6	3.9	15.6	2.8	27	C	5.2	3.2	79.9	11.7
2	D	4.5	9.0	14.9	71.5	28	B	19.2	72.4	5.7	2.7
3	D	8.6	11.6	13.7	66.0	29	D	16.3	11.3	3.9	68.5
4	B	12.0	60.6	5.9	21.4	30	B	7.6	63.9	8.4	20.0
5	B	10.4	77.2	6.4	5.9	31	C	6.7	7.3	78.9	7.0
6	C	4.7	12.1	71.3	11.7	32	B	5.7	74.9	9.4	9.9
7	A	73.8	8.5	5.5	12.1	33	D	12.3	6.7	7.6	73.2
8	C	7.6	2.0	87.7	2.6	34	D	2.9	0.9	8.2	88.0
9	B	9.0	71.3	6.2	13.1	35	C	25.3	6.7	63.1	4.8
10	D	3.1	1.7	2.5	92.6	36	A	75.6	13.7	8.6	2.1
11	D	8.2	5.4	19.6	66.7	37	B	5.8	81.9	8.3	3.9
12	A	65.4	26.5	6.4	1.6	38	A	47.5	23.0	19.3	10.0
13	C	10.2	6.8	70.2	12.6	39	A	84.4	5.2	4.6	5.9
14	C	4.4	6.8	72.8	15.9	40	A	71.9	5.1	17.2	5.7
15	D	5.4	8.2	14.8	71.4	41	D	2.0	13.3	20.1	64.6
16	B	5.2	80.0	10.8	3.9	42	B	8.6	71.0	11.2	8.9
17	A	65.4	16.0	12.3	6.1	43	A	55.0	14.8	20.2	9.7
18	A	76.5	10.1	5.9	7.5	44	C	6.1	9.7	77.5	6.5
19	C	8.8	16.2	60.3	14.4	45	C	8.4	11.6	76.0	3.7
20	C	5.4	16.0	70.6	7.8	46	D	8.1	7.6	19.7	64.4
21	D	24.2	9.0	8.9	57.7	47	A	82.5	9.2	6.4	1.7
22	B	5.2	75.0	1.8	17.9	48	A	78.7	9.6	7.5	3.9
23	C	4.0	26.4	67.3	2.2	49	B	14.5	67.3	10.6	7.4
24	C	3.6	4.9	88.8	2.6	50	D	9.4	9.1	9.2	72.2
25	B	3.2	89.1	5.7	1.9	51	A	62.3	12.3	19.6	5.4
26	B	6.6	87.5	3.6	2.2	52	A	64.2	8.6	20.9	5.7

*The sum of the percentages for some questions is less than 100% because the No Response category is not included. This category does not exceed 0.6% for any question.

Table 31

Distribution of Marks for Written-Response Questions
Mathematics 30

Question	NR*	Students Obtaining Each Mark (%)					
		0	1	2	3	4	5
1	1.8	5.3	2.1	5.8	12.5	9.1	63.3
2	4.3	12.9	10.1	12.3	13.5	46.8	
3	3.5	3.4	3.4	4.1	9.7	75.8	

*No Response

The total number of marks possible, the average mark awarded to students, and the difficulty level for each written-response question are summarized in Table 32. The difficulty level is the average divided by total marks possible.

Table 32

Average Marks Awarded for Written-Response Questions
Mathematics 30

Question	Total Marks	Average	Difficulty Level
1	5	4.0	0.81
2	4	2.6	0.66
3	4	3.4	0.86

SECTION 6: BIOLOGY 30 DIPLOMA EXAMINATION

The Biology 30 Diploma Examination consists of both multiple-choice questions (worth 80% of the total examination mark) and written-response questions (worth 20% of the total examination mark).

Table 33 contains percentage distributions for school-awarded marks, diploma examination marks, and final blended marks in Biology 30. Table 34 contains averages and standard deviations for the written-response questions and the multiple-choice questions. Averages are based on raw scores, which are the number of marks obtained on each part of the examination. The total marks possible are identified for the written-response and multiple-choice components.

Averages are based on the results achieved by 7 513 students. Differences between total averages and component averages are due to rounding.

Table 33

Provincial Percentages of A, B, C, and F Grades, Averages, and Standard Deviation of Scores
Biology 30

Score (%)	School-Awarded Mark	Diploma Examination Mark	Final Blended Mark
A (80-100)	18.5	19.1	18.3
B (65-79)	37.5	28.0	32.6
C (50-64)	36.9	29.4	38.0
F (0-49)	7.0	23.5	11.2
Average (%)	66.7	63.1	65.3
Standard Deviation	12.4	16.7	13.9

Table 34

Multiple-Choice and Written-Response Raw Score Totals
Biology 30

Examination Section	Total Marks	Weighting (%)	Average	Standard Deviation
Written Response	20	20	8.7	4.6
Multiple Choice	80	80	54.2	12.9

Table 35

January 1987 Biology 30 Diploma Examination Blueprint

Subject Matter	Questions By Cognitive Level			Examination Emphasis (%)
	Knowledge	Comprehension and Application	Higher Mental Activities	
Cellular Processes	1,2,4	3,5,6,[1]	7	9
Homeostatic Mechanisms	10	8,9		3
Nutrition	11,12,13, 14,15	16,17,18,19, 20,22	21,23,[4]	16
Circulation	24,25,26, 27,33	28,29,30,31,32	34,35 [3]	14
Gas Exchange	36,37,40	38,39	41	6
Metabolism	42,43	44	45 [5]	6
Excretion	46,47	48,49,50,51,[2]	52	13
Nervous & Hormonal Coordination	53,54,55,58, 62	56,57,59,60,61, 63,64,65,66,[6]	67,68	19
Movement	69,72	70,71		4
Human Reproduction	73,75,79	74,76,77,78, [7]	80	10
Examination Emphasis (%)	31	51	18	100

NOTE: Numbers in brackets [ ] indicate the written-response questions. In the table above, those questions identified with science process skills from the multiple-choice section of the examination are 5, 6, 7, 16, 21, 22, 23, 29, 30, 39, 41, 44, 52, 67, 77, and 80; those from the written-response section are 4, 5, 6, and 7. In the examination, science process skills received an emphasis of 26%.

Table 36

Provincial Raw Score Averages for Subtests
Biology 30

Subtest	Total Marks Possible			Raw Score Averages		
	Written Response	Multiple Choice	Total	Written Response	Multiple Choice	Total
Cellular Processes	2	7	9	0.6	4.9	5.5
Homeostatic Mechanisms	-	3	3	-	2.2	2.2
Nutrition	3	13	16	1.2	8.8	10.0
Circulation	2	12	14	0.7	8.1	8.9
Gas Exchange	-	6	6	-	4.0	4.0
Metabolism	2	4	6	1.0	2.6	3.6
Excretion	6	7	13	2.9	4.6	7.4
Nervous & Hormonal Coordination	3	16	19	1.0	10.5	11.5
Movement	-	4	4	-	2.5	2.5
Human Reproduction	2	8	10	1.4	6.2	7.5
Process Skills	10	16	26	4.6	10.1	14.7

Table 37

Provincial Raw Score Averages for Cognitive Levels
Biology 30

Cognitive Levels	Total Marks Possible			Raw Score Averages		
	Written Response	Multiple Choice	Total	Written Response	Multiple Choice	Total
Knowledge	-	31	31	-	22.0	22.0
Comprehension and Application	13	38	51	5.8	25.6	31.4
Higher Mental Activities	7	11	18	2.9	6.7	9.6

Multiple-Choice Questions

The percentage of students choosing each response for each multiple-choice question is given in Table 38. The correct response (key) for each question is also identified. Schools may use this information in conjunction with the test and with school results on individual items to determine local strengths and weaknesses.

Table 38

Results for Individual Multiple-Choice Questions
Biology 30

Item	Key	Distribution of Responses (%) A	B	C	D	Item	Key	Distribution of Responses (%) A	B	C	D
1	C	21.0	8.1	67.1	3.7	41	B	11.2	64.1	9.1	15.5
2	C	6.5	8.9	82.4	2.2	42	A	43.8	28.0	16.5	11.5
3	B	15.1	68.7	10.1	6.0	43	C	4.4	5.2	85.9	4.4
4	D	14.3	0.3	0.6	84.8	44	D	2.0	26.2	2.5	69.2
5	C	11.6	28.2	50.5	9.6	45	B	15.1	60.5	8.9	15.4
6	D	2.5	4.2	28.9	64.4	46	D	14.3	33.1	9.2	43.3
7	A	70.6	6.4	13.3	9.6	47	A	60.3	8.5	22.5	8.7
8	C	9.5	21.3	62.2	6.9	48	C	14.9	3.8	79.9	1.3
9	B	7.3	69.8	4.0	18.8	49	C	9.4	4.1	76.6	9.9
10	D	3.6	3.8	9.5	83.0	50	C	6.2	15.2	68.8	9.6
11	C	12.1	11.5	64.0	12.4	51	B	13.3	71.4	12.6	2.7
12	B	11.5	62.1	12.5	13.9	52	B	14.4	54.8	9.3	21.7
13	B	9.9	74.2	14.5	1.4	53	D	5.5	3.5	12.4	78.5
14	A	85.4	2.6	5.9	6.1	54	C	5.0	8.4	71.6	15.0
15	A	76.5	11.1	4.8	7.6	55	B	11.6	63.5	21.3	3.5
16	D	12.7	4.2	12.6	70.4	56	A	42.6	11.3	41.9	4.1
17	B	8.5	83.3	7.4	0.8	57	B	8.1	74.0	15.9	2.0
18	C	3.8	1.1	90.6	4.5	58	A	74.9	4.6	14.8	5.6
19	D	8.9	21.9	18.4	50.6	59	A	76.0	7.5	9.7	6.8
20	D	5.6	12.3	17.2	64.8	60	B	18.1	43.1	19.8	18.9
21	D	17.7	24.1	14.5	43.6	61	C	8.2	3.1	79.8	9.0
22	A	44.5	5.0	33.6	16.8	62	A	51.4	9.4	15.1	24.0
23	A	64.9	1.7	22.0	11.4	63	B	8.1	69.1	11.6	11.1
24	D	6.9	7.5	11.0	74.6	64	B	14.2	53.5	4.9	27.4
25	B	7.8	59.4	11.2	21.6	65	C	11.2	4.5	74.5	9.8
26	D	3.9	14.4	6.3	75.4	66	D	8.5	3.1	5.0	83.4
27	A	82.1	4.2	9.9	3.9	67	C	27.2	6.3	60.3	6.1
28	C	13.4	5.3	51.5	29.8	68	B	17.5	53.0	3.5	25.9
29	C	23.5	13.8	58.2	4.4	69	A	54.7	32.4	6.7	6.2
30	C	7.4	18.0	63.4	11.2	70	C	33.6	7.7	47.7	11.0
31	A	48.6	14.8	10.7	25.9	71	D	11.7	12.7	4.0	71.7
32	A	83.7	5.1	6.9	4.3	72	A	73.9	7.1	15.6	3.4
33	B	11.8	82.4	3.8	1.9	73	D	0.9	20.3	14.7	64.2
34	B	19.6	64.3	11.8	4.3	74	C	9.8	7.0	71.0	12.1
35	A	67.9	11.3	6.3	14.4	75	C	2.6	8.7	82.7	6.0
36	D	0.7	25.9	1.0	72.4	76	D	8.9	6.4	3.3	81.3
37	C	4.5	12.8	65.3	17.3	77	C	6.3	9.2	83.5	1.0
38	B	41.1	43.0	2.8	13.0	78	C	5.1	6.0	83.5	5.4
39	B	4.5	86.9	4.0	4.5	79	D	4.2	7.4	1.0	87.5
40	B	13.3	66.1	8.9	11.7	80	A	62.6	7.0	16.1	14.1

*The sum of the percentages for some questions is less than 100% because the No Response category is not included. This category does not exceed 0.2% for any question.

Table 39

Distribution of Marks for Written-Response Questions
Biology 30

Question	Percentage of Students Obtaining Each Mark							
	NR*	0	1	2	3	4	5	6
1	3.6	47.0	41.6	7.7	-	-	-	-
2	3.1	11.1	14.4	16.0	16.1	15.6	13.5	10.2
3	2.0	44.7	32.0	21.3	-	-	-	-
4	3.4	38.3	19.4	17.1	21.7	-	-	-
5	2.2	15.7	63.3	18.8	-	-	-	-
6	16.6	35.0	15.4	14.2	18.9	-	-	-
7	2.0	11.2	38.5	48.3	-	-	-	-

*No Response

The total number of marks possible, the average mark awarded to students, and the difficulty level for each written-response question are summarized in Table 40. The difficulty level is the average divided by the total marks possible.

Table 40

Average Marks Awarded for Written-Response Questions
Biology 30

Question	Total Marks	Average	Difficulty Level
1	2	0.6	0.29
2	6	2.9	0.48
3	2	0.7	0.37
4	3	1.2	0.40
5	2	1.0	0.50
6	3	1.0	0.33
7	2	1.4	0.68

SECTION 7: CHEMISTRY 30 DIPLOMA EXAMINATION

The Chemistry 30 Diploma Examination consists of both multiple-choice questions (worth 80% of the total examination mark) and written-response questions (worth 20% of the total examination mark).

Table 41 contains percentage distributions for school-awarded marks, diploma examination marks, and final blended marks in Chemistry 30. Table 42 contains averages and standard deviations for the written-response questions and the multiple-choice questions. Averages are based on raw scores, which are the number of marks obtained on each part of the examination. The total marks possible are identified for the written-response and multiple-choice components.

Averages are based on the results achieved by 6 504 students. Differences between total averages and component averages are due to rounding.

Table 41

Provincial Percentages of A, B, C, and F Grades, Averages, and Standard Deviation of Scores
Chemistry 30

Score (%)	School-Awarded Marks	Diploma Examination Mark	Final Blended Mark
A (80-100)	18.8	29.8	24.2
B (65-79)	35.8	29.0	34.3
C (50-64)	36.9	27.7	33.4
F (0-49)	8.5	13.5	8.1
Average (%)	66.3	68.5	68.0
Standard Deviation	13.2	16.4	14.2

Table 42

Multiple-Choice and Written-Response Raw Score Totals
Chemistry 30

Examination Section	Total Marks	Weighting (%)	Average	Standard Deviation
Written Response	14	20	8.4	3.0
Multiple Choice	56	80	39.5	9.2

Table 43

January 1987 Chemistry 30 Diploma Examination Blueprint

	Questions By Cognitive Level			
Subject Matter	Knowledge	Comprehension and Application	Higher Mental Activities	Examination Emphasis (%)
Chemical Energetics	1,3,4,6,9, 13,[1]	2,5,7,8,10,11, 12,15,17,18	14,16 [1]	33
Acids and Bases	19,20,21, 23,24,35 [2]	22,25,26,28,29 30,31,32,33,34, 36,37,[2]	27	33
Oxidation-Reduction	40,41,45,51, 55 [3]	38,39,43,44, 46,47,48,50, 52,53,54,56	42,49 [3]	34
Examination Emphasis (%)	34	51	14	100

NOTE: Numbers in brackets [] indicate the written-response questions.

In the table above, those questions identified with science process skills from the multiple-choice section of the examination are 1, 2, 9, 12, 14, 22, 27, 28, 29, 30, 31, 34, 35, 36, 41, 42, 44, 47, 48, 49, 52, 54, and 56; those from the written-response sections are 1, 2, and 3. In the examination, science process skills received an emphasis of 53%.

Table 44

Provincial Raw Score Averages for Subtests
Chemistry 30

Subtest	Total Marks Possible			Raw Score Averages		
	Written Response	Multiple Choice	Total	Written Response	Multiple Choice	Total
Chemical Energetics	5	18	23	2.5	13.2	15.8
Acids and Bases	4	19	23	2.2	13.3	15.5
Oxidation-Reduction	5	19	24	3.7	12.9	16.6
Process Skills	14	23	37	8.4	16.0	24.4

Table 45

Provincial Raw Score Averages for Cognitive Levels
Chemistry 30

Cognitive Levels	Total Marks Possible			Raw Score Averages		
	Written Response	Multiple Choice	Total	Written Response	Multiple Choice	Total
Knowledge	-	17	17	-	12.7	12.7
Comprehension and Application	4	34	38	2.2	23.6	25.8
Higher Mental Activities	10	5	15	6.3	3.1	9.4

Multiple-Choice Questions

The percentage of students choosing each response for each multiple-choice question is given in Table 46. The correct response (key) for each question is also identified. Schools may use this information in conjunction with the test and with school results on individual items to determine local strengths and weaknesses.

Table 46

Results for Individual Multiple-Choice Questions
Chemistry 30

Item	Key	Distribution of Responses (%) A	B	C	D	Item	Key	Distribution of Responses (%) A	B	C	D
1	B	4.8	65.5	9.7	20.0	29	D	7.6	7.2	22.9	62.3
2	C	6.0	6.6	75.0	12.3	30	D	13.9	8.8	5.9	71.4
3	A	84.8	10.4	1.7	3.0	31	A	64.6	12.4	13.7	9.4
4	C	17.4	5.5	73.7	3.3	32	D	9.4	4.1	9.1	77.4
5	D	12.7	5.9	20.3	61.0	33	A	66.5	5.1	9.6	18.7
6	B	3.0	90.3	2.7	4.0	34	C	6.8	8.5	76.4	8.3
7	A	62.1	8.3	17.0	12.6	35	D	5.5	28.3	1.8	64.5
8	B	10.6	78.2	7.6	3.4	36	C	4.9	14.9	77.0	3.0
9	D	2.2	4.4	6.2	87.2	37	A	56.2	12.3	10.8	20.3
10	D	3.1	5.3	14.9	76.5	38	A	70.1	14.4	8.9	6.5
11	D	7.6	3.4	15.0	73.9	39	C	15.5	18.1	58.0	8.2
12	B	5.9	72.4	13.5	7.9	40	D	15.6	4.2	3.0	77.2
13	A	88.0	8.2	2.9	0.9	41	B	4.3	83.0	5.7	7.0
14	A	49.5	4.7	11.1	34.7	42	D	18.0	10.1	5.8	66.0
15	C	2.1	9.8	83.6	4.5	43	B	18.1	64.2	13.8	3.7
16	B	9.7	63.5	14.8	12.0	44	B	13.9	68.8	5.4	11.8
17	C	5.5	12.5	58.5	23.4	45	C	12.9	4.9	65.5	16.7
18	B	5.0	74.8	4.3	15.7	46	C	3.4	10.7	76.6	9.3
19	A	87.5	7.6	1.9	2.9	47	D	9.5	16.9	10.6	62.7
20	D	5.0	6.6	1.2	87.2	48	A	55.3	6.7	18.4	19.6
21	D	2.1	5.5	13.5	78.8	49	B	23.0	69.5	2.6	4.9
22	C	11.1	3.2	80.2	5.5	50	A	82.2	6.4	6.9	4.4
23	A	56.5	9.5	28.8	5.0	51	C	3.8	1.1	80.9	14.1
24	A	68.5	6.6	17.7	7.2	52	C	5.0	10.5	66.7	17.8
25	C	20.2	3.3	67.3	9.2	53	A	59.3	30.0	4.6	6.1
26	D	18.7	11.3	8.4	61.5	54	C	13.0	7.0	76.5	3.3
27	A	61.5	11.6	3.6	23.2	55	D	23.6	14.1	30.5	31.6
28	B	10.6	66.9	9.1	13.4	56	B	6.0	73.4	12.3	7.0

*The sum of the percentages for some questions is less than 100% because the No Response category is not included. This category does not exceed 1.3% for any question.

Table 47

Distribution of Marks for Written-Response Questions
Chemistry 30

Question	Students Obtaining Each Mark (%)						
	NR*	0	1	2	3	4	5
1	3.9	14.3	10.6	12.5	22.0	31.0	5.6
2	1.5	10.2	21.4	22.4	29.0	15.6	-
3	0.4	0.2	4.8	14.1	20.5	25.3	34.8

*No Response

The total number of marks possible, the average mark awarded to students, and the difficulty level for each written-response question are summarized in Table 48. The difficulty level is the average divided by total marks possible.

Table 48

Average Marks Awarded for Written-Response Questions
Chemistry 30

Question	Total Marks	Average	Difficulty Level
1	5	2.5	0.51
2	4	2.2	0.54
3	5	3.7	0.74

SECTION 8: PHYSICS 30 DIPLOMA EXAMINATION

The Physics 30 Diploma Examination consists of both multiple-choice questions (worth 80% of the total examination mark) and written-response questions (worth 20% of the total examination mark).

Table 49 contains percentage distributions for school-awarded marks, diploma examination marks, and final blended marks in Physics 30. Table 50 contains averages and standard deviations for the written-response questions and the multiple-choice questions. Averages are based on raw scores, which are the number of marks obtained on each part of the examination. The total marks possible are identified for the written-response and multiple-choice components.

Averages are based on the results achieved by 2 937 students. Differences between total averages and component averages are due to rounding.

Table 49

Provincial Percentages of A, B, C, and F Grades, Averages, and Standard Deviation of Scores
Physics 30

Score (%)	School-Awarded Marks	Diploma Examination Mark	Final Blended Mark
A (80-100)	23.8	28.9	25.9
B (65-79)	38.8	32.6	37.9
C (50-64)	31.4	26.8	30.4
F (0-49)	5.9	11.6	5.8
Average (%)	68.9	69.0	69.5
Standard Deviation	12.9	15.5	13.4

Table 50

Multiple-Choice and Written-Response Raw Score Totals
Physics 30

Examination Section	Total Marks	Weighting (%)	Average	Standard Deviation
Written Response	14	20	8.5	2.8
Multiple Choice	56	80	39.8	8.8

Table 51

January 1987 Physics 30 Diploma Examination Blueprint

	Questions By Cognitive Level			
Subject Matter	Knowledge	Comprehension and Application	Higher Mental Activities	Examination Emphasis (%)
Light	1,9,10,12, 14,15,16	3,4,5,6, 8,11	2,7,13	23
Electric and Magnetic Fields	17,20,23, 25,26	18,21,24,29, 30,[2]	19,22, 27,28	27
EM Radiation	31,32, 33,36	34,[1]	35	14
Structure of Matter	39,46, 48,50	37,38,41,42, 43,44,45,47	40,49	20
Modern Physical Theories	51,52, 55,56	54,[3]	53	16
Examination Emphasis (%)	34	50	16	100

NOTE: Numbers in brackets [] indicate the written-response questions.

In the table above, those questions identified with science process skills from the multiple-choice section of the examination are 2, 4, 7, 13, 19, 22, 27, 28, 29, 35, 40, 49, and 53; those from the written-response sections are 1, 2, and 3. In the examination, science process skills received an emphasis of 38%.

Table 52

Provincial Raw Score Averages for Subtests
Physics 30

Subtest	Total Marks Possible			Raw Score Averages		
	Written Response	Multiple Choice	Total	Written Response	Multiple Choice	Total
Light	-	16	16	-	11.2	11.4
Electric and Magnetic Fields	5	14	19	3.3	9.7	13.1
EM Radiation	4	6	10	2.7	4.4	7.1
Structure of Matter	-	14	14	-	9.9	9.9
Modern Physical Theories	5	6	11	2.5	4.5	6.9
Process Skills	14	13	27	8.5	7.5	16.0

Table 53

Provincial Raw Score Averages for Cognitive Levels
Physics 30

Cognitive Levels	Total Marks Possible			Raw Score Averages		
	Written Response	Multiple Choice	Total	Written Response	Multiple Choice	Total
Knowledge	-	24	24	-	18.0	18.0
Comprehension and Application	14	21	35	8.5	15.7	24.2
Higher Mental Activities	-	11	11	-	6.1	6.1

Multiple-Choice Questions

The percentage of students choosing each response for each multiple-choice question is given in Table 54. The correct response (key) for each question is also identified. Schools may use this information in conjunction with the test and with school results on individual items to determine local strengths and weaknesses.

Table 54

Results for Individual Multiple-Choice Questions
Physics 30

Item	Key	Distribution of Responses (%)				Item	Key	Distribution of Responses (%)			
		A	B	C	D			A	B	C	D
1	B	2.3	92.6	4.6	0.5	29	C	32.4	5.1	56.0	6.5
2	B	13.2	62.7	14.7	9.0	30	D	2.6	2.3	2.3	92.7
3	C	0.8	2.3	88.4	8.4	31	A	71.7	8.5	6.2	13.7
4	C	4.6	4.5	80.3	10.6	32	C	16.4	7.3	65.7	10.6
5	B	13.5	81.6	4.1	0.8	33	A	78.3	3.0	12.5	6.2
6	C	2.2	3.7	58.4	35.4	34	C	2.9	6.8	86.3	3.8
7	C	4.0	44.9	46.4	4.6	35	B	42.1	49.3	3.4	5.1
8	D	12.1	14.6	14.6	58.4	36	C	3.6	4.5	86.0	5.9
9	A	53.3	38.1	1.6	6.9	37	B	5.2	84.4	4.8	5.5
10	A	79.1	5.7	7.0	8.1	38	B	14.1	74.9	8.6	2.3
11	D	11.7	7.1	34.8	46.3	39	C	5.8	17.2	74.1	3.0
12	A	79.8	4.0	13.5	2.7	40	A	52.7	16.5	15.2	15.6
13	B	10.5	66.0	12.2	11.3	41	B	12.2	65.4	13.8	8.4
14	D	9.1	5.4	3.5	81.9	42	C	7.9	6.7	66.8	18.1
15	B	8.2	81.9	6.1	3.7	43	B	8.0	78.0	10.4	3.6
16	B	5.1	76.1	14.0	4.7	44	D	6.4	8.1	19.9	65.3
17	B	3.3	72.5	18.6	5.6	45	C	5.6	3.1	89.4	1.7
18	C	2.2	3.8	80.8	13.2	46	D	16.7	4.7	6.4	72.2
19	B	10.0	42.0	33.1	14.3	47	B	4.8	85.2	5.9	3.8
20	C	3.6	3.9	78.4	14.1	48	B	4.1	62.9	27.4	5.5
21	B	3.8	84.3	7.5	4.3	49	B	15.3	55.3	19.4	9.0
22	D	14.5	6.0	10.8	68.6	50	D	15.0	10.2	19.3	55.4
23	A	74.7	7.2	13.8	4.3	51	D	7.4	1.4	6.6	84.4
24	C	8.4	12.6	64.5	13.9	52	C	21.3	16.4	59.8	2.4
25	C	9.1	2.5	82.9	5.5	53	A	50.9	20.7	20.5	6.8
26	A	59.3	21.5	14.2	5.0	54	B	6.2	76.1	12.9	4.2
27	A	48.6	23.2	14.1	13.8	55	C	1.4	3.1	81.6	13.6
28	B	4.9	64.8	14.3	15.8	56	D	1.5	3.5	2.2	91.9

*The sum of the percentages for some questions is less than 100% because the No Response category is not included. This category does not exceed 1.1% for any question.

Table 55

Distribution of Marks for Written-Response Questions
Physics 30

Question	Students Obtaining Each Mark (%)						
	NR*	0	1	2	3	4	5
1	1.6	2.5	11.5	20.4	40.2	23.8	-
2	1.1	2.2	3.7	13.3	26.2	44.6	8.9
3	3.3	7.2	16.4	17.2	40.5	4.2	11.2

*No Response

The total number of marks possible, the average mark awarded to students, and the difficulty level for each written-response question are summarized in Table 56. The difficulty level is the average divided by total marks possible.

Table 56

Average Marks Awarded for Written-Response Questions
Physics 30

Question	Total Marks	Average	Difficulty Level
1	4	2.7	0.67
2	5	3.3	0.66
3	5	2.4	0.49

SECTION 9: LANGUE ET LITTÉRATURE 30 DIPLOMA EXAMINATION

The Langue et Littérature 30 Diploma Examination consists of two parts: Part A: Written Response and Part B: Reading (Multiple Choice), each worth 50% of the total examination mark. January 1987 was the first administration of the Langue et Littérature 30 Examination.

Table 57 contains percentage distributions for school-awarded marks, diploma examination marks, and final blended marks in Langue et Littérature 30. Table 58 contains averages and standard deviations for the written-response questions and the multiple-choice questions. Averages given in Table 58 are based on raw scores, which are the number of marks obtained on each part of the examination.

The total marks possible are identified for the written-response and multiple-choice components.

Averages in both tables are based on the results achieved by 64 students. Differences between total averages and component averages are due to rounding.

Table 57

Provincial Percentages of A, B, C, and F Grades, Averages, and Standard Deviation of Scores
Langue et Littérature 30

Score (%)	School-Awarded Mark	Diploma Examination Mark	Final Blended Mark
A (80-100)	32.8	26.6	31.3
B (65-79)	50.0	46.9	50.0
C (50-64)	15.6	25.0	18.8
F (0-49)	1.6	1.6	0.0
Average (%)	72.9	72.0	72.8
Standard Deviation	10.5	10.4	9.5

Table 58

Multiple-Choice and Written-Response Raw Score Totals
Langue et Littérature 30

Examination Section	Total Marks	Weighting (%)	Average	Standard Deviation
Part A: Written Response	50	50	36.8	6.4
Part B: Multiple Choice	76	50	53.5	7.8

Table 59

January 1987 Langue et Littérature 30 Diploma Examination Blueprint
Part A: Written Response

Description of the Writing Assignment	Reporting Category	Proportion of Total Mark (%)
Minor Assignments		
For both minor assignments, students will be given a personal situation or context in which they will be asked to develop an argument or to present information.	1. Content	15
	2. Writing Skills	5
Major Assignment		
The major assignment sets a specific writing task but allows the student to choose relevant details (examples, illustrations) from literature studied in Langue et Littérature courses. The writing assignment will be related to a brief reading selection given in the exam. The assignment will require students to understand literal and implied meanings, and to synthesize thoughts clearly and correctly in writing.	1. Total Impression	5
	2. Content	10
	3. Organization	5
	4. Style	5
	5. Matters of Convention	5
		50

Table 60

Percentage Distribution of Scores on Langue et Littérature 30: Part A
Minor Assignments (Personal Response and Critical Response)

Score Scale Points	Minor Assignment 1 Reporting Category		Minor Assignment 2 Reporting Category	
	Content	Writing Skills	Content	Writing Skills
5 (Exceptional)	10.9	9.4	20.3	7.8
4 (Proficient)	43.8	40.6	39.1	42.2
3 (Satisfactory)	43.8	46.9	29.7	48.4
2 (Limited)	1.6	3.1	10.9	1.6
1 (Poor)	0.0	0.0	0.0	0.0
INS (Insufficient or No Response)	0.0	0.0	0.0	0.0

Table 61

Percentage Distribution of Scores on Langue et Littérature 30: Part A
Major Assignment

Score Scale Points	Reporting Category				
	Total Impression	Content	Organization	Style	Matters of Convention
5 (Exceptional)	14.1	18.8	18.8	15.6	6.3
4 (Proficient)	42.2	43.8	48.4	40.6	42.2
3 (Satisfactory)	39.1	26.6	23.4	40.6	48.4
2 (Limited)	3.1	9.4	9.4	3.1	3.1
1 (Poor)	1.6	1.6	0.0	0.0	0.0
INS (Insufficient or No Response)	0.0	0.0	0.0	0.0	0.0

Table 62

January 1987 Langue et Littérature 30 Diploma Examination Blueprint
Part B: Reading (Multiple Choice)

Reporting Category	Questions by Cognitive Level			Examination Emphasis (%)
	Literal Understanding	Inference and Application	Evaluation	
Understanding (Content)	10,24,25, 30,42,45, 47,75	2,13,16,17, 19,20*,26, 33*,34,43, 51,54,57,67, 74,77,78	31,32,39	17.5
Critical Response (Form)	68*,80	1,12,14,15, 18, 27,28, 35,37,38,44, 49,55,64,65, 69,70,72,79	4,73,76	15
Interpretation (Human values and experiences)		3,7,11,21, 23,40,46,56*, 58,59,60,61, 62,63,66	5,6,8,9, 22,29,36, 41,48,50, 52,53,71	17.5
Examination Emphasis (%)	6	32	12	50

*Questions 20, 33, 56, and 68 were deleted from the examination. A review of the examination results and item statistics revealed flaws in the items.

Table 63

Raw Score Results for Langue et Littérature 30: Part B

Reporting Category	Average	Standard Deviation
1. Understanding (26 questions)	17.8	2.8
2. Critical Response (23 questions)	16.7	2.8
3. Interpretation (27 questions)	19.0	3.6

Multiple-Choice Questions

The percentage of students choosing each response for each multiple-choice question is given in Table 64. The correct response (key) for each question is also identified. Schools may use this information in conjunction with the test and with school results on individual items to determine local strengths and weaknesses.

Table 64

Results for Individual Multiple-Choice Questions
Langue et Littérature 30

Item	Key	Distribution of Responses (%) A	B	C	D	Item	Key	Distribution of Responses (%) A	B	C	D
1	D	0.0	4.6	13.8	80.0	41	D	3.1	21.5	16.9	58.5
2	A	64.6	32.3	3.1	0.0	42	A	87.7	1.5	0.0	10.8
3	A	90.8	4.6	4.6	0.0	43	C	9.2	7.7	63.1	20.0
4	B	12.3	67.7	9.2	10.8	44	D	21.5	0.0	4.6	73.8
5	D	15.4	0.0	1.5	83.1	45	A	80.0	7.7	3.1	9.2
6	D	0.0	0.0	21.5	78.5	46	C	0.0	7.7	75.4	16.9
7	A	40.0	0.0	47.7	12.3	47	A	38.5	55.4	3.1	3.1
8	D	1.5	4.6	0.0	93.8	48	B	13.8	73.8	7.7	4.6
9	D	3.1	7.7	4.6	84.6	49	C	12.3	20.0	41.5	24.6
10	A	66.2	10.8	21.5	1.5	50	C	13.8	6.2	72.3	7.7
11	B	0.0	81.5	18.5	0.0	51	B	7.7	26.2	66.2	0.0
12	D	1.5	43.1	12.3	43.1	52	B	24.6	33.8	23.1	18.5
13	B	6.2	83.1	0.0	10.8	53	D	10.8	0.0	12.3	76.9
14	D	1.5	1.5	1.5	95.4	54	A	53.8	12.3	21.5	12.3
15	D	3.1	4.6	1.5	90.8	55	B	0.0	92.3	4.6	3.1
16	B	13.8	67.7	9.2	9.2	56	QUESTION DELETED				
17	B	0.0	80.0	18.5	1.5	57	C	20.0	9.2	52.3	18.5
18	C	3.1	4.6	80.0	12.3	58	A	56.9	18.5	0.0	24.6
19	D	20.0	15.4	12.3	52.3	59	C	27.7	29.2	29.2	12.3
20	QUESTION DELETED					60	B	13.8	75.4	6.2	4.6
21	B	1.5	78.5	3.1	16.9	61	A	76.9	13.8	1.5	7.7
22	D	1.5	1.5	20.0	76.9	62	D	0.0	21.5	3.1	75.4
23	B	23.1	66.2	4.6	6.2	63	C	4.6	1.5	75.4	18.5
24	B	0.0	66.2	27.7	6.2	64	A	41.5	18.5	10.8	29.2
25	A	95.4	0.0	1.5	3.1	65	A	69.2	4.6	26.2	0.0
26	D	0.0	6.2	1.5	92.3	66	D	0.0	9.2	23.1	67.7
27	D	6.2	0.0	7.7	86.2	67	C	0.0	1.5	95.4	3.1
28	C	0.0	1.5	96.6	1.5	68	QUESTION DELETED				
29	C	27.7	1.5	58.5	12.3	69	A	53.8	9.2	6.2	30.8
30	D	0.0	7.7	16.9	75.4	70	B	3.1	55.4	0.0	41.5
31	A	81.5	7.7	3.1	7.7	71	B	0.0	50.8	1.5	47.7
32	A	75.4	10.8	4.6	9.2	72	B	4.6	78.5	1.5	15.4
33	QUESTION DELETED					73	C	36.9	15.4	43.1	4.6
34	A	63.1	7.7	13.8	15.4	74	B	4.6	89.2	3.1	3.1
35	A	73.8	15.4	1.5	9.2	75	C	41.5	12.3	40.0	6.2
36	D	0.0	1.5	12.3	86.2	76	C	12.3	23.1	50.8	13.8
37	C	0.0	1.5	87.7	10.8	77	B	4.6	80.0	6.2	9.2
38	C	1.5	1.5	90.8	6.2	78	B	1.5	73.8	20.0	4.6
39	B	16.9	38.5	26.2	18.5	79	C	0.0	7.7	87.7	4.6
40	B	15.4	75.4	3.1	6.2	80	C	9.2	9.2	80.0	1.5

*The sum of the percentages for each question may be less than 100% because the No Response category is not included. This category is not greater than 1.5% for any question.

SECTION 10: GUIDELINES FOR INTERPRETING THE REPORTS ON THE DIPLOMA EXAMINATIONS

In addition to this Provincial Report, each school and school jurisdiction receives a report containing statistics based on students from that particular school or jurisdiction. At the option of the superintendent, each jurisdiction may request that Alberta Education provide similar reports for instructional groups within schools. Although it is expected that instructional groups will usually be class groups, the identification of group membership for each student can be done by the school administration in any way it chooses.

Jurisdiction, school, and instructional group reports contain tables that are parallel to the major tables in this Provincial Report. Reports are organized by examination subject. The following statistics are included:

1. letter grade distributions for school-awarded, diploma examination, and final blended marks

2. averages and standard deviations for those marks

3. averages and standard deviations for multiple-choice questions, written-response questions, and the reporting categories used in this Provincial Report

4. the percentage of students selecting each alternative on each multiple-choice question

5. individual student results for examination marks, multiple-choice scores, written-response scores, and major reporting categories

All statistics are based only on those students for whom both an examination mark and a school mark are available. Original school-awarded marks and examination marks are used; any changes due to appeals will not appear. In the event of differences between marks given in the reports and marks on results statements or transcripts, the marks on results statements and transcripts are the official marks.

The reports may be used as part of the information for:

1. evaluation of the quality of instructional programs in each subject

2. comparison of local student achievement with achievement of all students in the province

3. evaluation of the fairness of local student evaluation procedures

4. identification of individual student strengths and weaknesses

Those who are interpreting results must take into account the following limitations:

1. Group, school, or jurisdiction size will affect the importance of differences from the provincial results.

2. Averages on subscales or on different examinations can most fairly be compared if they are first converted to standard scores. To convert an average to a standard score, subtract the provincial average from the reporting group average and then divide by the standard deviation. A more complete explanation of the calculation and use of standard scores can be found in most introductory statistics texts.

3. Blended mark distributions cannot be directly compared to school-awarded mark distributions or diploma examination mark distributions. The blended marks are the average of the other two marks for each student. Since the school-awarded marks and examination marks are not perfectly correlated, the blended marks will tend to be closer to the average, with fewer students receiving extremely high or low scores than in other mark distributions.

4. Factors affecting selection of examination courses vary from school to school. It is necessary to decide to what extent the range of abilities in a reporting group is similar to the range of abilities of all students in the province who wrote the examination. Differences in the range of abilities can be expected to lead to differences in measured achievement even if no differences in instruction exist. For example, the policy of a school or jurisdiction may be to encourage students to take a particular course. As a result, a less select group of students may take that course than in most other schools. In such a case, a wider range of scores should be expected in that subject than for the province, with perhaps a lower mean if the course is restricted to high ability students in typical schools.

The most effective way to use the reports for the improvement of instruction is to identify areas of strength or weakness in the performance of local students. The following is an example of a systematic approach which may be a useful starting point for those developing a system to identify strengths or weaknesses for their own school or jurisdiction.

Basic Tenets

1. It is desirable and feasible to ask teachers and school administrators to take responsibility for analyzing and using provincial test results.

2. The development of analyses and action plans by each school is a more productive and positive activity than interpretations made by an external source.

3. There is an identifiable group of factors which should be analyzed and commented upon when reviewing test results.

4. Subscale results are often more informative than total test scores.

5. Generalizations should be based on long-term data.

6. It is NOT necessarily desirable or productive to compare the results of different schools.

7. Diploma examinations measure the core of the program specified by the curriculum. However, some skills and concepts that are not measured are worth teaching and learning.

8. Written reports and face-to-face discussions between teachers and administrators are useful means of ensuring that results are appropriately interpreted and used.

Suggested Analysis and Reporting Format

1. Subject and date of test administration

2. Number of students who wrote the examination

3. Profile of students who wrote the examination

   a. noteworthy individual characteristics

   b. general or group characteristics

   c. previous performance

4. Retention rates (based on number of students enrolled during the preceding year in prerequisite subjects)

5. School performance compared to jurisdiction and provincial averages

6. Current school performance compared to previous years

7. Discussion of actual and expected subtest results, with recommended actions

8. Discussion of item results, identification of common errors, and suggestions for action to reduce the misunderstanding that leads to the errors

9. Programming emphasis: hours of instruction, and skill and content emphasis

10. Instructional practices: methodology, curriculum fit, and resources

11. Program objectives not measured by the test

12. Recommended actions for next year

13. Summary and concluding comments

14. Names and signatures of staff who prepared the report

Procedures

1. Teachers, department heads, and/or principals will analyze and prepare a written report about each administration of a diploma examination.

2. Principals will review and sign the report.

3. The report will be forwarded to the jurisdiction central office.

4. The appropriate central office staff member will prepare a written response to the report, with copies of the response going to the teacher, department head, principal, assistant superintendent, and superintendent.

5. If possible, all concerned staff will meet to discuss the report and the response.

6. Reports will be used to improve the program and to maximize the opportunities for student success.

7. When significant differences exist between actual and expected results, consideration will be given to performing a formal program evaluation.

8. Reports will be completed by April 30 (for the January sitting) and October 30 (for the June sitting) each year. The report for the June sitting will include retention rates for the Grade 10, Grade 11, and Grade 12 years of the subject.

The preceding example is adapted from materials developed by Medicine Hat School District No. 76.

SECTION 11: SUMMARY OF RESULTS

In Table 65, the provincial distribution of student marks in the diploma examination courses is summarized. The percentage distribution for the school-awarded mark, the January 1987 diploma examination mark, and the final blended mark achieved by students is shown for each of the A, B, C, and F grade categories. In addition, a comparison with the January 1986 diploma examination course results is provided.

Table 65

Distribution of Student Marks in Diploma Examination Courses
January 1987 Examination Administration and January 1986 Final Course Mark[1]

Diploma Examination Course	January 1987 School-Awarded Mark	January 1987 Diploma Examination Mark	January 1987 Final Blended Mark	January 1986 Final Mark
English 30			N = 8 805	N = 8 284
A (80-100%)	12.4	10.1	9.8	7.6
B (65-79%)	40.8	39.3	41.6	38.8
C (50-64%)	39.4	40.5	44.3	47.8
F (0-49%)	7.4	10.2	4.2	5.8
Mean	65.1	64.4	65.3	63.8
Standard Deviation	11.7	11.7	10.5	10.7
English 33			N = 4 153	N = 4 215
A (80-100%)	4.1	8.4	3.7	3.5
B (65-79%)	34.8	41.5	39.8	40.3
C (50-64%)	50.3	39.1	51.4	50.2
F (0-49%)	10.8	11.0	5.1	6.0
Mean	61.0	64.1	63.0	62.6
Standard Deviation	10.7	11.5	9.4	9.6

[1]The figures may be changed slightly as a result of appeals of school-awarded marks, rereads of diploma examinations, or special cases considerations.

(Continued)

Table 65 (continued)

Diploma Examination Course	January 1987 School-Awarded Mark	Diploma Examination Mark	Final Blended Mark	January 1986 Final Mark
Social Studies 30			N = 7 767	N = 7 590
A (80-100%)	15.4	13.2	13.4	14.2
B (65-79%)	37.8	32.0	35.6	39.7
C (50-64%)	39.8	35.1	42.2	39.7
F (0-49%)	6.9	19.6	8.9	6.4
Mean	65.8	62.5	64.5	65.9
Standard Deviation	12.0	14.3	12.4	11.8
Mathematics 30			N = 8 587	N = 8 357
A (80-100%)	21.8	45.8	33.9	22.2
B (65-79%)	34.1	27.5	34.1	31.1
C (50-64%)	34.9	17.2	25.8	34.5
F (0-49%)	9.2	9.6	6.2	12.3
Mean	67.0	74.7	71.7	66.0
Standard Deviation	14.1	17.3	14.9	15.5
Biology 30			N = 7 513	N = 6 828
A (80-100%)	18.5	19.1	18.3	20.8
B (65-79%)	37.5	28.0	32.6	34.0
C (50-64%)	36.9	29.4	38.0	36.2
F (0-49%)	7.0	23.5	11.2	9.0
Mean	66.7	63.1	65.3	66.8
Standard Deviation	12.4	16.7	13.9	13.9
Chemistry 30			N = 6 504	N = 6 351
A (80-100%)	18.8	29.8	24.2	18.2
B (65-79%)	35.8	29.0	34.3	31.1
C (50-64%)	36.9	27.7	33.4	39.7
F (0-49%)	8.5	13.5	8.1	11.0
Mean	66.3	68.5	68.0	65.1
Standard Deviation	13.2	16.4	14.2	14.2

Table 65 (continued)

Diploma Examination Course	School-Awarded Mark	Diploma Examination Mark	Final Blended Mark	January 1986 Final Mark
	January 1987			
Physics 30			N = 2 937	N = 2 801
A (80-100%)	23.8	28.9	25.9	21.8
B (65-79%)	38.8	32.6	37.9	36.6
C (50-64%)	31.4	26.8	30.4	33.3
F (0-49%)	5.9	11.6	5.8	8.2
Mean	68.9	69.0	69.5	67.2
Standard Deviation	12.9	15.5	13.4	13.8
Langue et Littérature			N = 64	No Exam
A (80-100%)	32.8	26.6	31.3	
B (65-79%)	50.0	46.9	50.0	
C (50-64%)	15.6	25.0	18.8	
F (0-49%)	1.6	1.6	0.0	
Mean	72.9	72.0	72.8	
Standard Deviation	10.5	10.4	9.5	

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